

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP 2004/005817

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl' B21C23/00, B21C23/14, B23K20/12, F17C1/14, H01M8/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl' B21C23/00-35/06, F17C1/00-1/16, B23K20/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Japanese Utility Model Gazette 1922-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2004, Japanese Registered Utility Model Gazette 1994-2004, Japanese Gazette Containing the Utility Model 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2003-13191 A (NGK INSULATORS LTD) 2003.01.15, CLAIMS (Family: none)	1-29
A	JP 11-172387 A (FURUKAWA ELECTRIC CO LTD) 1999.06.29, whole document (Family: none)	1-29
A	JP 2001-32058 A (HITACHI METALS LTD) 2001.02.06, whole document (Family: none)	1-29
A	JP 2003-64458 A (NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL & TECHNOLOGY) 2003.03.05, whole document (Family: none)	1-29
A	JP 10-160097 A (BOEING NORTH AMERICAN INC) 1998.06.16, claims, fig.4 & US 5697511 A & CA 2215121 A & EP 833097 A2 & CN 1184905 A	1-29
A	JP 7-243588 A (HINO MOTORS LTD) 1995.09.19, claims, fig.4 (Family: none)	1-29

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier application or patent but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

22.07.2004

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10.8.2004

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